

12-01-20 14:54 FROM-

JAN 20 2012

T-453 P0002/0014 F-649



## UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents  
United States Patent and Trademark Office  
P.O. Box 1450  
Alexandria, VA 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

INTELLECTUAL PROPERTY DIVISION  
TAIWAN SEMICONDUCTOR MANUFACTURING COMPANY, LTD.  
NO. 8, LI-HSIN RD. 6  
SCIENCE-BASED INDUSTRIAL PARK  
HSIN-CHU 300-7-7 TW TAIWAN

MAILED

NOV 21 2011

Patent No. 6,960,512  
Application No. 10/602,241  
Filed: June 24, 2003  
Issued: November 1, 2005  
Attorney Docket No. TSM02-1262

OFFICE OF PETITIONS

ON PETITION

This is a decision on the petition under 37 CFR 1.378(c), filed October 31, 2011, to accept the delayed payment of a maintenance fee for the above-identified patent.

The petition is **DISMISSED**.

If reconsideration of this decision is desired, a petition for reconsideration under 37 CFR 1.378(e) must be filed within TWO (2) MONTHS from the mail date of this decision. No extension of this two-month time limit can be granted under 37 CFR 1.136(a) or (b). This is **not** final agency action within the meaning of 5 U.S.C. § 704.

A petition to accept the unintentionally delayed payment of a maintenance fee under 35 U.S.C. § 41(c) and 37 CFR 1.378(c) must be accompanied by: (1) a statement that the delay was unintentional; (2) payment of the appropriate maintenance fee, unless previously submitted; (3) payment of the surcharge set forth in 37 CFR 1.20(i)(2). This petition lacks none of the items listed above.

However, it appears that the instant petition is on the behalf of the assignee, and as such, does not comply with 37 CFR 3.73(b). 37 CFR 3.73(b) provides that: (1) when an assignee seeks to take action in a matter before the Office, the assignee must establish its ownership of the property to the satisfaction of the Commissioner; (2) ownership is established by submitting to the Office, in the Office file related to the matter in which action is sought to be taken, documentary evidence of a chain of title from the original owner to the assignee (e.g., copy of an executed assignment submitted for recording) or by specifying (e.g., reel and frame number) where such evidence is recorded in the Office; (3) the submission establishing ownership must be signed by a party authorized to act on behalf of the assignee; and (4) documents submitted to establish ownership may be required to be recorded as a condition to permitting the assignee to take action in a matter pending before the Office. A blank 37 CFR 3.73(b) statement is enclosed.

Further, although the petition form submitted was for a petition under 37 CFR 1.378(b), to accept payment of the maintenance fee based on UNAVOIDABLE delay, petitioner submitted the

JAN 20 2012

\$1640.00 UNINTENTIONAL delay surcharge. The petition has been treated as a petition under 37 CFR 1.378(c) to accept an unintentionally delayed payment of maintenance fee. If this is in error, please notify the Office to treat the petition under 37 CFR 1.378(b) to accept an unavoidably delayed payment of maintenance fee.

**Any petition for reconsideration of this decision must be accompanied by the petition fee of \$400.00 as set forth in 37 CFR 1.17(h).** The petition for reconsideration must include the lacking item(s) noted above, since, after a decision on the petition for reconsideration, no further reconsideration or review of the matter will be undertaken by the Commissioner.

Petitioner should note that if this petition is not renewed, or if renewed and not granted, then the maintenance fees and post expiration surcharge are refundable. Petitioner may request a refund of the fees submitted on October 31, 2011. Please send all requests for refunds to the following address:

Mail Stop 16  
Director of the US Patent and Trademark Office  
P.O. Box 1450  
Alexandria, VA 22313-1450

A copy of this decision should accompany petitioner's request.

Further correspondence with respect to this matter should be addressed as follows:

By mail: Mail Stop PETITIONS  
Commissioner for Patents  
Post Office Box 1450  
Alexandria, VA 22313-1450

By hand: Customer Window located at:  
U.S. Patent and Trademark Office  
Customer Service Window Randolph Building  
401 Dulany Street  
Alexandria, VA 22314

By fax: (571) 273-8300  
ATTN: Office of Petitions

Any questions concerning this matter may be directed to the undersigned at (571) 272-3206.

/Liana Walsh/  
Liana Walsh  
Petitions Examiner  
Office of Petitions

Enclosure: PTO/SB/96

PTO/SF/08 (07-09)  
 Approved for use through 07/21/2012. ONS 0001-0001  
 U.S. Patent and Trademark Office, U.S. DEPARTMENT OF COMMERCE  
 Under the Paperwork Reduction Act of 1995, no person is required to respond to a collection of information unless it displays a valid OMB control number.

RECEIVED  
 CENTRAL FAX CENTER

JAN 20 2012

**STATEMENT UNDER 37 CFR 3.73(b)**

Applicant/Patent Owner: \_\_\_\_\_  
 Application No./Patent No.: \_\_\_\_\_ Filed/Issue Date: \_\_\_\_\_  
 Titled: \_\_\_\_\_

(Name of Assignee) \_\_\_\_\_ (Type of Assignee, e.g., corporation, partnership, university, government agency, etc.) \_\_\_\_\_

states that it is:

1. ☐ the assignee of the entire right, title, and interest in;  
 2. ☐ an assignee of less than the entire right, title, and interest in  
 (The extent (by percentage) of its ownership interest is \_\_\_\_\_ %); or  
 3. ☐ the assignee of an undivided interest in the entirety of (a complete assignment from one of the joint inventors was made)  
 the patent application/patent identified above, by virtue of either:

A. ☐ An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel \_\_\_\_\_, Frame \_\_\_\_\_, for which a copy therefore is attached.

OR

B. ☐ A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:

1. From: \_\_\_\_\_ To: \_\_\_\_\_

The document was recorded in the United States Patent and Trademark Office at  
 Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.

2. From: \_\_\_\_\_ To: \_\_\_\_\_

The document was recorded in the United States Patent and Trademark Office at  
 Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.

3. From: \_\_\_\_\_ To: \_\_\_\_\_

The document was recorded in the United States Patent and Trademark Office at  
 Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.

☐ Additional documents in the chain of title are listed on a supplemental sheet(s).

☐ As required by 37 CFR 3.73(b)(1)(i), the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being, submitted for recordation pursuant to 37 CFR 3.11.

(NOTE: A separate copy (i.e., a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, to record the assignment in the records of the USPTO. See MPEP 302.08)

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

Signature \_\_\_\_\_

Date \_\_\_\_\_

Printed or Typed Name \_\_\_\_\_

Title \_\_\_\_\_

This collection of information is required by 37 CFR 3.73(b). This information is required to obtain or retain a benefit by the public which it is to file (and by the USPTO on process) on application. Confidentiality is governed by 36 U.S.C. 522 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1460, Alexandria, VA 22313-1460.

If you need assistance in completing the form, call 1-800-PTO-9122 and select option 2.

## Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (36 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

12-01-20 14:55 FROM--

T-453 P0006/0014 F-649

JAN 20 2012

U.S.S.N. 10/602,241

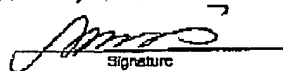
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Shui-Ming Cheng, et al      Group Art Unit:  
Serial No.: 10/602,241      Patent No.: 6,960,512  
Examiner: Walter L. Lindsay, Jr.      Filed: 06/24/2003  
For: Method For Manufacturing A Semiconductor Device Having An  
Improved Disposable Spacer  
Attorney Docket No.: 2002-1262

CERTIFICATE OF MAILING OR FACSIMILE TRANSMISSION

I hereby certify that this correspondence is (1) ☒ being facsimiled to the United States Patent Office, Office of  
Petitions at fax number (571) 273-8300 on January 20, 2012.

Mandy Chien-Yu Liu  
Printed Name

  
Signature

JANUARY 20, 2012  
Date

Please forward all correspondence to

Mandy Chien-Yu Liu  
Taiwan Semiconductor Manufacturing Company, Ltd.  
No. 8, Li-Hsin Road 6  
Science Based Industrial Park  
Hsin-Chu, Taiwan, R.O.C.

Petition for Reconsideration under 37 CFR 1.17(f)

Office of Petitions  
US Patent and Trademark Office  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

In response to an Office Action dated 11/21/2011  
dismissing a petition under 37 CFR 1.378 (c) filed on  
10/31/11, the petitioner hereby respectfully request a  
reconsideration to accept delayed payment of a maintenance  
fee for the above-identified patent.

1

01/24/2012 DALLIN 00000014 6960512

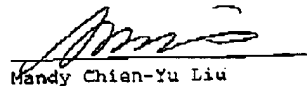
01 FC:1462

400.00 OP

U.S.S.N. 10/602,241

The petitioner further respectfully submit a Statement under  
37 CFR 3.73 (b) establishing its ownership of the property.

Respectfully submitted,



Mandy Chien-Yu Liu  
Administrator of IP Division  
Taiwan Semiconductor Manufacturing Company, Ltd.

**Patent Assignment Abstract of Title**

**NOTE: Results display only for issued patents and published applications. For pending or abandoned applications please consult USPTO staff.**

**Total Assignments: 1**

Patent #: 6960512 Issue Dt: 11/01/2005 Application #: 10602241 Filing Dt: 06/24/2003  
Publication #: US20040266122 Pub Dt: 12/30/2004

Inventors: Shui-Ming Cheng, Ka-Hing Fung, Yin-Pin Wang, Kuan-Lun Cheng, Huan-Tsung Huang

Title: METHOD FOR MANUFACTURING A SEMICONDUCTOR DEVICE HAVING AN IMPROVED DISPOSABLE SPACER

**Assignment: 1**

Reel/Frame: 014229 / 0438

Recorded: 06/24/2003

Pages: 3

Conveyance: ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).

Assignors: CHENG, SHUI-MING

Exec Dt: 06/19/2003

FUNG, KA-HING

Exec Dt: 06/23/2003

WANG, W.P.

Exec Dt: 06/23/2003

CHENG, K.L.

Exec Dt: 06/19/2003

HUANG, HUAN-TSUNG

Exec Dt: 06/23/2003

Assignee: TAIWAN SEMICONDUCTOR MANUFACTURING COMPANY, LTD.

NO. 6, LI-HSIN RD. 6

SCIENCE-BASED INDUSTRIAL PARK

HSIN-CHU, TAIWAN 300-77

Correspondent: SLATER & MATSIL, L.L.P.

STEVEN H. SLATER

17950 PRESTON RD.

STE. 1000

DALLAS, TX 75252-5793

Search Results as of: 01/17/2012 09:44 AM

If you have any comments or questions concerning the data displayed, contact PRD / Assignments at 571-272-3350 v.2.2  
Web interface last modified: Dec 1, 2011



US006960512B2

(12) **United States Patent**  
Cheng et al.

(10) Patent No.: **US 6,960,512 B2**

(45) Date of Patent: **Nov. 1, 2005**

(54) **METHOD FOR MANUFACTURING A SEMICONDUCTOR DEVICE HAVING AN IMPROVED DISPOSABLE SPACER**

(75) Inventors: Shui-Ming Cheng, Hsin-Chu (TW);  
Ka-Hung Fung, Hsin-Chu (TW);  
Yin-Pia Wang, Kaohsiung (TW);  
Kuan-Lun Cheng, Hsin-Chu (TW);  
Huan-Dang Huang, Hsin-Chu (TW)

(73) Assignee: Taiwan Semiconductor  
Manufacturing Company, Ltd.,  
Hsin-Chu (TW)

(\*) Notice: Subject to any disclaimer, the term of this  
patent is extended or adjusted under 35  
U.S.C. 154(b) by 60 days.

(21) Appl. No.: 10/602,241

(22) Filed: Jun. 24, 2003

(65) Prior Publication Data

US 2004/0266122 A1 Dec. 30, 2004

(51) Int. Cl.<sup>7</sup> H01L 21/336; H01L 21/8238

(52) U.S. Cl. 438/305; 438/303; 438/229

(58) Field of Search 438/305, 229,  
438/230, 231, 232, 301, 303, 306

(56) References Cited

U.S. PATENT DOCUMENTS

5,949,105 A \* 9/1999 Modski ..... 257/336  
6,258,680 B1 \* 7/2001 Palford et al. .... 438/305

\* cited by examiner

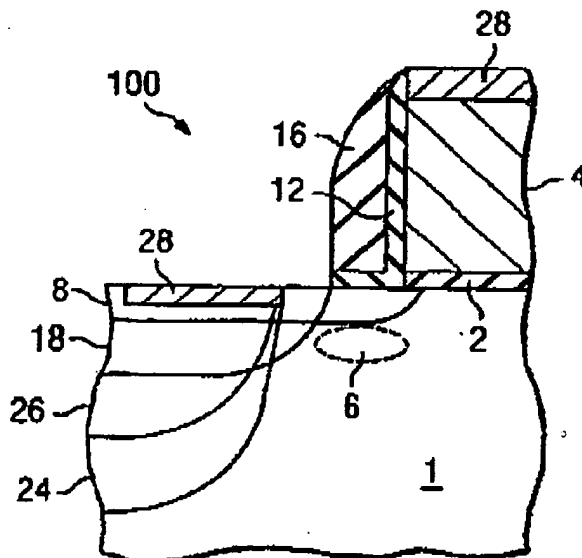
Primary Examiner—Walter L. Lindsay, Jr.

(74) Attorney, Agent, or Firm—Slater & Matsil, L.L.P.

(57) **ABSTRACT**

The present invention provides methods for manufacturing semiconductor devices. In one embodiment, the method includes forming a gate oxide over a substrate and a gate electrode over the gate oxide. The method also includes implanting impurities into the substrate using the gate electrode as an implant mask to form lightly-doped regions in the substrate. The method further includes forming a first spacer adjacent the gate electrode, and implanting impurities into the substrate and through a portion of the lightly-doped regions using the first spacer as an implant mask to form deep source/drain regions in the substrate. The method still further includes forming a second spacer adjacent the first spacer, implanting impurities into the substrate using the second spacer as an implant mask to form a graded source/drain region in the substrate, and removing the second spacer. Also disclosed is a semiconductor device constructed using the techniques disclosed herein.

21 Claims, 2 Drawing Sheets





JAN 20 2012

07-08-2003

Form PTO-1595 (Rev. 10/02) OMB No. 0651-0027 (exp. 6/30/2005)		U.S. DEPARTMENT OF COMMERCE U.S. Patent and Trademark Office	
102490873		Atty. Docket No. TSM02-1262	
To the honorable Commissioner of Patents and Trademarks: Please record the attached original documents or copy thereof.			
1. Name of conveying party(ies): <u>6-24-03</u>  Shui-Ming Cheng Ka-Hing Fung W.P. Wang K.L. Cheng Huan-Tsung Huang		2. Name and address of receiving party(ies)  Name: <u>Taiwan Semiconductor Manufacturing Company, Ltd.</u>  Internal Address: _____  Street Address: <u>No. 6, Li-Hsin Rd. 6</u>  <u>Science-Based Industrial Park</u>  City: <u>Hsin-Chu</u>  State: <u>Taiwan</u> Zip: <u>300-77</u>	
Additional name(s) of conveying party(ies) attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		City: <u>Hsin-Chu</u>  State: <u>Taiwan</u> Zip: <u>300-77</u>	
3. Nature of conveyance:  <input checked="" type="checkbox"/> Assignment <input type="checkbox"/> Merger <input type="checkbox"/> Security Agreement <input type="checkbox"/> Change of Name <input type="checkbox"/> Other _____  Execution Date: <u>6/19/2003 &amp; 6/23/2003</u>		Additional name(s) & address(es) attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
4. Application number(s) or patent number(s):  If this document is being filed together with a new application, the execution date of the application is: <u>6/19/2003 &amp; 6/23/2003</u> A. Patent Application No.(s) <u>10,602,241</u> B. Patent No.(s) _____ Additional numbers attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
5. Name and address of party to whom correspondence concerning document should be mailed:  Name: <u>Steven H. Slater</u> <u>Slater &amp; Matsui, L.L.P.</u> Street Address: <u>17850 Preston Rd.</u> <u>Suite 1000</u> City: <u>Dallas</u> State: <u>Texas</u> Zip: <u>75252-5783</u>		6. Total number of applications and patents involved: <u>1</u>  7. Total fee (37 CFR 3.41): ..... \$ <u>40.00</u>  <input type="checkbox"/> Enclosed <input checked="" type="checkbox"/> Authorized to be charged to deposit account	
07/08/2003 LMJELLER 00000019 501065 10502241 01 FC:803 40.00 DA		8. Deposit account number:  <u>50-1065</u> (Attach duplicate copy of this page if paying by deposit account)	
DO NOT USE THIS SPACE			
9. Statement and signature. To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.  <u>Brian A. Carlson</u> Reg. No. <u>37,793</u> Name of Person Signing <u>[Signature]</u> Date <u>6/24/03</u> Total number of pages including cover sheet, attachments, and documents: <u>3</u>			

Mail documents to be recorded with required cover sheet information to:  
 Commissioner of Patents & Trademarks, Mail Stop Assignments, P. O. Box 1450, Alexandria, VA 22313-1450

PATENT

REEL: 014229 FRAME: 0438



United States Patent and Trademark Office

[Home](#) | [Site Index](#) | [Search](#) | [Guides](#) | [Contacts](#) | [eBusiness](#) | [eBiz alerts](#) | [News](#) | [Help](#)

Assignments on the Web &gt; Patent Query

**Patent Assignment Details****NOTE: Results display only for issued patents and published applications. For pending or abandoned applications please consult USPTO staff.**

Roll/Frame: 934239/0438

Page: 3

Recorded: 06/24/2003

Conveyance: ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).

**Total properties: 1**

1	Patent #: 6560512	Issue Dt: 11/01/2005	Application #: 10502241	Filing Dt: 06/24/2003
	Publication #: US20040266122	Pub Dt: 12/30/2004		
	Title: METHOD FOR MANUFACTURING A SEMICONDUCTOR DEVICE HAVING AN IMPROVED DISPOSABLE SPACER			

**Assignors**

1	CHENG, SHUI-MING	Exec Dt: 06/19/2003
2	CHUNG, KACHING	Exec Dt: 06/23/2003
3	WANG, W.P.	Exec Dt: 06/23/2003
4	CHENG, K.L.	Exec Dt: 06/19/2003
5	HUANG, HUAN-TSUNG	Exec Dt: 06/23/2003

**Assignee**

1 TAIWAN SEMICONDUCTOR MANUFACTURING COMPANY, LTD.  
 NO. 6, LI-HSIN RD. 6  
 SCIENCE-BASED INDUSTRIAL PARK  
 HSIN-CHU, TAIWAN 300-77

**Correspondence name and address**

SLATER & MATSIL, L.L.P.  
 STEVEN H. SLATER  
 17950 PRESTON RD.  
 STE. 1000  
 DALLAS, TX 75252-5793

If you have any comments or questions concerning the data displayed, contact PTO / Assignments at (714) 373-8360, v.3.3  
 Web Interface last modified: Dec 1, 2011 v.2.5

[HOME](#) | [INDEX](#) | [SEARCH](#) | [eBUSINESS](#) | [CONTACT US](#) | [PRIVACY STATEMENT](#)

JAN 20 2012

T-453 P0012/0014 F-649

Approved for use through 07/20/2011. GDS 1231-0001  
U.S. Patent and Trademark Office, U.S. DEPARTMENT OF COMMERCE  
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

**STATEMENT UNDER 37 CFR 3.73(b)**Applicant/Patent Owner: Shui-Ming Cheng, Ka-Hing Fung, Yin-Pin Wang, Kuan-Lun Cheng, Huan-Tsung HuangApplication No./Patent No.: 10/802,241 Filed/Issue Date: 06/24/2003Title: Method For Manufacturing A Semiconductor Device Having An Improved Disposable Spacer

Taiwan Semiconductor Manufacturing Company, a Corporation

(Name of Assignee) (Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that it is:

1. ☒ the assignee of the entire right, title, and interest in;
2. ☐ an assignee of less than the entire right, title, and interest in (The extent (by percentage) of its ownership interest is \_\_\_\_\_ %); or
3. ☐ the assignee of an undivided interest in the entirety of (a complete assignment from one of the joint inventors was made) the patent application/patent identified above, by virtue of either:
- A. ☒ An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel 014220, Frame 0488, or for which a copy therefore is attached.

OR

- B. ☐ A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:

1. From: \_\_\_\_\_ To: \_\_\_\_\_  
The document was recorded in the United States Patent and Trademark Office at Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.
2. From: \_\_\_\_\_ To: \_\_\_\_\_  
The document was recorded in the United States Patent and Trademark Office at Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.
3. From: \_\_\_\_\_ To: \_\_\_\_\_  
The document was recorded in the United States Patent and Trademark Office at Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.

☐ Additional documents in the chain of title are listed on a supplemental sheet(s).☐ As required by 37 CFR 3.73(b)(1)(i), the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being, submitted for recordation pursuant to 37 CFR 3.11.

(NOTE: A separate copy (i.e., a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, to record the assignment in the records of the USPTO. See MPEP 302.08)

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

  
Signature

January 20, 2012

Date

Mandy Chien-Yu Liu

Administrator of IP Division

Printed or Typed Name

Title

This collection of information is required by 37 CFR 3.73(b). The information is required to obtain or retain a benefit by this patent which is to be filed by the USPTO (to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 15 minutes to complete, including gathering, preparing, and entering the completed application forms to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-4100 and select option 2.